Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Central Regional Office • 8 New Bond Street, Worcester MA 01606 • 508-792-7650

August 10, 2015
Mr. Kirk Toth
Northeast Energy Associates, L.P.
92 Depot Street
Bellingham, MA 02019

RE: Bellingham
Transmittal No.: X239473
Application No.: CE-11-032
Class: OP
FMF No.: 204934
AIR QUALITY PLAN APPROVAL

Dear Mr. Toth:

The Massachusetts Department of Environmental Protection ("MassDEP"), Bureau of Air and Waste, has reviewed your Non-major Comprehensive Plan Application ("Application") listed above. This Application concerns the proposed alteration of emission limits at your electric generating facility located at 92 Depot Street in Bellingham, Massachusetts ("Facility"). The Application bears the seal and signature of Sean Gregory, Massachusetts Registered Professional Engineer number 46477.

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 "Air Pollution Control," regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-O, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP's review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner/operator ("Permittee") must comply in order for the Facility to be operated in compliance with this Plan Approval. The Facility is currently owned and operated by Northeast Energy Associates, L.P.

1. DESCRIPTION OF FACILITY AND APPLICATION

I. PERMITTING HISTORY AND APPLICABLE REQUIREMENTS

A. The Facility is a combined cycle electric power generating plant located at 92 Depot Street, Bellingham, Massachusetts. On February 1, 1989 MassDEP issued to the Permittee 310 CMR 7.02 Plan Approval CM-88-C-001 and Prevention of Significant Deterioration permit CM-88-PSD-001 ("PSD permit") to initially construct the Facility.

B. On September 16, 1991, the Permittee submitted additional plans and specifications as required by the conditional Plan Approval CM-88-C-001. Additional comments were submitted by the Permittee on February 21, 1992. On May 5, 1992, MassDEP issued Plan Approval CM-88-C-001 (A). This Plan Approval was further amended on June 11, 1992.

C. On October 27, 1994, MassDEP issued nitrogen oxides ("NO_x") Emission Control Plan ("ECP") Approval Transmittal # 79291 to the Permittee. MassDEP amended the NO_x ECP on November 3, 1994. MassDEP issued permits to the Permittee in accordance with 310 CMR 7.27 and 7.28 of the Massachusetts Air Pollution Control regulations. On July 12, 2002, MassDEP issued Operating Permit Transmittal #79300 to the Permittee.

D. The June 11, 1992 Plan Approval and the July 12, 2002 OP limited the use of distillate fuel oil to no more than 720 hours on oil or any combination of hours on oil between the turbines such that the Facility does not exceed a total of 1440 hours per year. There were also additional restrictions contained within the February 1, 1989, PSD permit that limit fuel oil use options depending on the availability of natural gas.

E. The Permittee requested modifications to the June 11, 1992 Plan Approval and February 1, 1989 PSD permit that would allow the Facility more flexibility in its use of distillate fuel oil. These modifications included an increase in the amount of time that fuel oil could be burned in the Facility's turbines, and a decrease in the fuel oil sulfur content. On November 31, 2006, MassDEP approved these modifications and issued an Amended Plan Approval Transmittal No. W081465-A. The Permittee then requested changes to the Amended Approval via an appeal to the Approval. On January 11, 2007, MassDEP issued Plan Approval Transmittal No. W081465-A1 that incorporated the requested changes.

F. On October 4, 2007, MassDEP issued Limited Plan Approval ("LPA") Transmittal #W151606 to the Permittee, allowing for a trial period for alternative opacity limits while burning fuel oil. On May 8, 2014, MassDEP issued a second LPA for the same purpose.

G. On December 23, 2008, the United States Environmental Protection agency ("USEPA") issued a modified Prevention of Significant Deterioration Permit ("PSD") pertaining to the Permittee's request for additional fuel oil flexibility. The modified PSD permit includes conditions from the original PSD permit (originally issued by MassDEP on February 1, 1989) and new and revised conditions associated with the additional fuel oil flexibility.

USEPA also added new monitoring, reporting and recordkeeping requirements and eliminated emission limit references to International Standards Organization ("ISO") conditions. (ISO conditions represent 59°F, 60% relative humidity and 29.92 inches mercury at sea level.) With concurrence from MassDEP and EPA, as of January 22, 2009, the Permittee discontinued the practice of correcting Continuous Emission Monitoring System ("CEMS") measurements to base load ISO conditions.

H. EPA's new and revised PSD permit conditions were based on the Permittee's Actual-to-Projected Actual applicability test. The test showed that the Permittee's proposed changes would not result in a significant net emissions increase.

I. The Permittee requested additional changes to the MassDEP Plan Approval Transmittal No. W081465-A1 in order to merge its conditions with the recently issued PSD permit dated December 23, 2008. On May 20, 2009 MassDEP issued Plan Approval Transmittal No. W081465-A2 which superseded Plan Approval Transmittal No. W081465-A1.

J. The Permittee is subject to 40 CFR Part 60 Subpart GG Standards of Performance for Stationary Combustion Turbines. The Permittee is subject to 40 CFR Part 63 Subpart ZZZZ requirements for reciprocating internal combustion engines ("RICE") for its Caterpillar Model 3306 emergency generator rated at 287 horsepower.

K. MassDEP's original "Determination for PSD Permit Application" dated February 1, 1989 stated that the Permittee was not required to undergo ozone non-attainment review, since the projected VOC emissions were only 98 tons per year.

L. The Permittee's original application presented the results of air dispersion modeling of the impact of air contaminants from the Facility. The Determination for PSD Permit Application found that the modeled air quality impacts would not cause any NAAQS violation or consume more than any available PSD increment.

M. The Permittee received approval from the Energy Facilities Siting Council on December 17, 1987.

N. The Secretary of Environmental Affairs issued a certificate of compliance with MGL c. 30, s. 61-62H on the final Environmental Impact Report for the project on March 18, 1988.

O. The Permittee is subject to the following emission allowance programs:
    1. Acid Rain Program pursuant to 40 CFR Parts 72, 73, and 75
    2. NO_x Ozone Season Clean Air Interstate Rule (CAIR) pursuant to 310 CMR 7.32
    3. Regional Greenhouse Gas Initiative (RGGI) CO_2 Budget Trading Program pursuant to 310 CMR 7.70

II. FACILITY DESCRIPTION

A. The power generating Facility consists of two Westinghouse Model No. W-501D5 gas combustion turbines ("CTs") each with an unfired heat recovery steam generator containing a high-pressure vessel and a low-pressure vessel. Both high and low pressure steam are directed to a single steam turbine ("ST") to generate additional energy. Steam is extracted from an intermediate stage within the ST for steam injection to control NOx.

B. Auxiliary systems to the main equipment include an air-cooled steam condenser, a high voltage switchyard, a 2.3 million gallon fuel oil storage tank and a water storage tank.

C. The two CTs are rated at 111 megawatts ("MW") each. Each CT contains 14 Westinghouse Model DF42 mechanical atomizing burners. The turndown ratio of each is 20 to 1. Total electrical output from the CTs under base load design conditions is 222 MW.

D. Combustion gases from each of the CTs are directed to a heat recovery steam generator ("HRSG"). At the CT base load design conditions, steam is produced in each HRSG at a rate of 690,000 pounds per hour at 900 psig (and 168,100 #/hour at 70 psig). The high-pressure steam from both HRSG's is directed to the ST.

E. The ST under base load design conditions generates 82 megawatts ("MW") of electric power. Combining this with the electrical output from the CT's the total electrical production for the Facility is 304 MW. An electrical switchyard includes transformers to step up the 13.8 KV generator voltage to the 345 KV transmission voltage.

F. Fuel for the Facility is natural gas and distillate fuel oil. The natural gas is delivered via a natural gas pipeline that traverses the site. Fuel oil is transported to the Facility by tank car along the railway bed, which presently traverses the site, and/or by tank trucks. The fuel oil is stored in a 2.3 million gallon storage tank.

G. The Facility uses steam injection to control NO_x emissions. Steam is injected into the turbine combustors to lower the flame temperature and reduce the formation of NO_x to lowest achievable limits while utilizing natural gas or fuel oil.

III. PROJECT DESCRIPTION

On December 28, 2011, the Permittee submitted an application under Transmittal No. X239473 to revise the gas-fired startup/shutdown CO and VOC emission limits. The Permittee requested that the following modifications be made to Plan Approval Transmittal No. W081465-A2 to properly characterize existing startup gas-fired CO pounds per million British Thermal Units ("lb/MMBtu") emissions:

1. Change startup/shutdown natural gas-fired CO lb/MMBtu limit from 0.113 lb/MMBtu to 0.183 lb/MMBtu with an alternative limit of 1.2 lb/MMBtu applicable to instances when a combustion turbine does not operate for at least 120 consecutive minutes.
2. Change startup/shutdown natural gas-fired VOC lb/MMBtu limit from 0.0086 lb/MMBtu to 0.0153 lb/MMBtu, since it is calculated from the CO limit.

In addition, the Permittee requested other minor changes to the Plan Approval. These other changes are included in this Plan Approval. MassDEP determined that the PSD permit needed to be modified as well and it will be modified as a separate document from this Plan Approval.

The Permittee did not propose to make any changes to the existing physical equipment at the Facility, or make any changes in actual emissions from the Facility, in this project proposal.

This Plan Approval, Transmittal No. X239473, supersedes in its entirety, Plan Approval Transmittal No. W081465-A2. Plan applications with supporting material for previously approved Plan Approvals remain applicable where they are not in conflict with Plan Approval Transmittal No. X239473.

2. EMISSION UNIT (EU) IDENTIFICATION

Each Emission Unit (EU) identified in Table 1 is subject to and regulated by this Plan Approval:

Table 1

EU#	Description	Design Capacity	Pollution Control Device (PCD)
1	Westinghouse Turbine Model No. 501D5	111 MW	Steam Injection
2	Westinghouse Turbine Model No. 501D5	111 MW	Steam Injection

Table 1 Key:
EU# = Emission Unit Number
MW = Megawatts

3. APPLICABLE REQUIREMENTS

A. OPERATIONAL, PRODUCTION and EMISSION LIMITS

The Permittee is subject to, and shall not exceed the Operational, Production, and Emission Limits as contained in Tables 2, 2A and 2B:

Table 2				
EU#	**Operational / Production Limit**	**Air Contaminant**	**Emission Limits (Note 1)**	
			lb/MMBtu (Per Turbine)	**lb/hour (Plant Total) (EU 1 and 2)**
1 & 2 While burning Natural Gas		PM/PM_{10}	0.0047	12.0
		SO_2	0.0016	4.0
		NO_x	0.0859	220.0
		CO	0.0516	132.0
		VOC	0.0043	11.0
1& 2 While burning Fuel Oil	1. Not to exceed 2880 hours per year operation on fuel oil (Note 3) 2. Sulfur content of fuel oil received not to exceed 15 ppmw	PM/PM_{10}	0.0647	160.0
		SO_2	0.0016 (Note 2)	4.6
		NO_x	0.1497	370.0
		CO	0.3277	810.0
		VOC	0.0151	37.4
1 & 2 While burning Natural Gas and/or Fuel Oil	Opacity – exclusive of uncombined water shall not exceed 10% based on a 6 minute averaging period, during all modes of operation except oil-fired startups and shutdowns, when opacity shall not exceed 20% for a period or aggregate period of time in excess of six minutes during any one hour provided that, at no time during the said six minutes shall the opacity exceed 40%.			

Table 2 Notes:
Note 1: The NO_x, CO and VOC lbs/MMBtu and lb/hour emission limits are based on one hour block averages and do not apply during hours of startup and shutdown. Opacity readings are based on six minute block averages.

Note 2: Equivalent to a sulfur-in-fuel limit of 15 ppmw. SO_2 limits of 0.2136 lb/MMBtu and 528 lb/hr, corresponding to the previously approved limit of 0.2 weight percent sulfur fuel oil, applied until such time as the previously received higher-sulfur fuel oil in tankage was diluted by receipts of 15 ppmw sulfur fuel oil to the point where the average sulfur content of the fuel oil did not exceed 15 ppmw for five consecutive samples.

Note 3: EU 1 and EU 2 may operate for any combination of hours on distillate fuel oil such that the Facility does not exceed a total of 2880 hours during any 12-month rolling period.

Table 2 Key:
EU# = Emission Unit Number
NO_x = Nitrogen Oxides
CO = Carbon Monoxide
SO_2 = Sulfur Dioxide
PM = Particulate Matter (filterable only)
PM_{10} = Particulate Matter (filterable only) with an aerodynamic diameter less than or equal to 10 micrometers
VOC = Volatile Organic Compounds
lb/MMBtu = pounds per million BTU

lb/hour = pounds per hour

Table 2A - Emission Limits during Startup and Shutdown				
Limited to 120 Minutes for Each Separate Event				
Pollutant	**Per Turbine (pounds per million BTU) (Note 1)**		**Plant Total (pounds per hour) (Note 1)**	
	While Burning Gas	**While Burning Oil**	**While Burning Gas**	**While Burning Oil**
NO_x	Startup – 0.676 Shutdown – 0.844	Startup – 0.700 Shutdown – 0.874	Startup – 865 Shutdown – 1080	Startup – 865 Shutdown – 1080
CO	0.183 (Note 2)	0.655 (Note 2)	132	810
VOC	0.0153	0.030	11	75

Table 2A Notes:
Note 1: Unit startup commences when fuel is first ignited and shall not exceed 120 minutes for either turbine. Unit shutdown is the time period from steady state operation to cessation of combustion turbine firing. Shutdown shall not exceed 120 minutes for either turbine. Emission limits are based on a 120-minute averaging period.
Note 2: An alternative CO limit of 1.2 lb/MMBtu applies when a turbine does not operate for at least 120 consecutive minutes.

Table 2A Key:
EU# = Emission Unit Number
NO_x = Nitrogen Oxides
CO = Carbon Monoxide
VOC = Volatile Organic Compounds

Table 2B – Emission Limit Combined Total		
EU#	**Pollutant**	**Tons per Consecutive 12-month Period (Note 1)**
1 & 2	PM/PM_{10}	106
	SO_2	18 (Note 2)
	NO_x	978
	CO	822
	VOC	46

Table 2B Notes:
Note 1: The 12-month rolling total emission limits include emissions under all operating conditions including emissions that occur during emergencies, malfunctions, startups and shutdowns.

Note 2: The 18 tons per 12-month period limit on SO_2 applies regardless of the sulfur content of fuel oil burned during the 12-month period.

Table 2B Key:
EU# = Emission Unit Number
NO_x = Nitrogen Oxides
CO = Carbon Monoxide
SO_2 = Sulfur Dioxide
PM = Particulate Matter (filterable only)
PM_{10} = Particulate Matter (filterable only) with an aerodynamic diameter less than or equal to 10 micrometers
VOC = Volatile Organic Compounds

B. COMPLIANCE DEMONSTRATION

The Permittee is subject to, and shall comply with, the monitoring, testing, record keeping, and reporting requirements as contained in Tables 3, 4, and 5:

Table 3	
EU#	**Monitoring and Testing Requirements**
1 & 2	1. The Permittee shall calibrate, test and operate a Data Acquisition System (DAS) and Continuous Emission Monitoring system ("CEMS") and Continuous Opacity Monitoring system ("COMs") to measure and record the following emissions A. Oxygen (O_2) or Carbon Dioxide (CO_2) B.Oxides of Nitrogen (NO_x) C.Carbon Monoxide (CO) D. Opacity
	2. The Permittee shall ensure that all stack monitors and recording equipment comply with Department approved performance and location specifications, and conform with the applicable EPA monitoring specifications in 40 CFR Part 60.13, 40 CFR Part 60 Appendices B and F, and 40 CFR Parts 72 and 75.
	3. The Permittee shall use and maintain its CEMS and COMs as a "direct-compliance" monitor to measure NO_x, CO, O_2 or CO_2, and opacity. "Direct-compliance" monitors generate data that legally document the compliance status of a source. MassDEP shall utilize the data generated by the "direct-compliance" monitor, MassDEP recognized emission testing or other credible evidence for compliance and enforcement purposes.

Table 3	
EU#	**Monitoring and Testing Requirements**
	4. The Permittee shall equip the CEMS with audible and visible alarms to activate when emissions exceed the limits established in Table 2 and Table 2A of this approval.
	5. The Permittee shall comply with all applicable monitoring requirements contained in 40 CFR Parts 60, 72 and 75 and 310 CMR 7.32, 7.70 and 7.71.
1 & 2	6. The Permittee shall operate each CEMS at all times that EU#1 and/or EU#2 is in operation except for periods of CEMS calibration checks, zero and span adjustments, preventive maintenance, and periods of malfunction.
	7. The Permittee shall obtain and record emission data from each CEMS and COMS for at least 75% of the common stack operating hours per day, for at least 84% of the common stack operating hours per month, and for at least 95% of the emission unit operating hours per quarter. Notwithstanding these requirements, a minimum of four common stack operating hours are required during a unit operating day before compliance with the Percent Monitor Availability (PMA) requirement to obtain valid emissions data for at least 75% of the common stack operating hours per day be evaluated.
	8. All periods of excess emissions, even if attributable to an emergency/malfunction, startup, shutdown or equipment cleaning, shall be quantified and included in the determination of annual emissions and compliance with the annual emission limits as stated in Table 2B of this approval.
	9. The Permittee shall demonstrate continuous compliance with the VOC emission limits (short-term and annual) contained herein by monitoring CO emissions with the CO CEMS. If CO emissions are above the respective CO emission limit, the VOC emissions shall be considered as occurring at a rate determined by the equation: $VOC_{actual}=VOC_{limit}$ x (CO_{actual}/CO_{limit}).
	10. Any period of excess emission of CO shall also count as a period of excess emission of VOC, and the excess emission of VOC shall count towards the annual emission limitation for VOC.
	11. The Permittee shall maintain a quality control/quality assurance program ("QA/QC") for the long-term operation of the CEMS which conforms to applicable portions of 40 CFR Part 60, Appendix F, 40 CFR Parts 72 and 75 and 310 CMR 7.32. Any significant changes to QA/QC may only be done with approval from MassDEP.
	12. The Permittee shall maintain on-site for the CEMS an adequate supply of spare parts to maintain the on-line availability and data capture requirements.
	13. Compliance with the allowable opacity limits shall be determined in accordance with EPA Method 9, as specified in 40 CFR 60, Appendix A and in accordance with 310 CMR 7.00 Appendix C(9)(b).
	14. The Permittee shall comply with the requirements of the Federal New Source Performance Standards 40 CFR 60, Subparts A (General Provisions) and 40 CFR 60 subpart GG (Stationary Gas Turbines).

Table 3	
EU#	**Monitoring and Testing Requirements**
	15. Using equation numbers 1 and 2 in Appendix A, the Permittee shall attribute emissions to each combustion turbine by pro-rating the common stack emissions using the electrical output from each combustion turbine. Pro-rating will not be done when one combustion turbine is in either startup and/or shutdown mode and the other combustion turbine is operating at steady state, or when both combustion turbines are in either startup and/or shutdown mode. All stack emissions will be attributed to one combustion turbine if the other combustion turbine is completely shutdown.
1 & 2	16. In the event the procedure set forth in Appendix A indicate an exceedance of an applicable emission limit, the Permittee may rebut any calculated pounds per million British Thermal Units exceedances with credible evidence. For example, if the formula indicates that both units exceeded the applicable limit, the Permittee may provide credible evidence to show that only one unit was in exceedance. Such evidence may include the results of parametric monitoring and shall be provided to EPA and MassDEP as part of the Permittee's quarterly CEMS reports. The burden of providing such credible evidence and of proving that a calculated exceedance is not an exceedance in fact shall be on the Permittee.
	17. The Permittee shall conduct a Relative Accuracy Test Audit (RATA) on the NO_x and CO CEMS at a frequency determined in accordance with 40 CFR 75 Appendix B, Section 2.3.1, which shall supersede the test frequency contained in 40 CFR 60 Appendix F, Section 5.1.1.
	18. The Permittee shall monitor sulfur content of each new shipment of fuel oil received. Sulfur content of the fuel can be demonstrated through fuel analysis. The analysis of sulfur content of the fuel shall be in accordance with the applicable American Society for Testing Materials (ASTM) test methods or any other method approved by the MassDEP and EPA. Fuel sulfur information may be provided by fuel suppliers.
	19. The Permittee shall monitor the total sulfur content of the fuel being fired in the turbines in accordance with 40 CFR 60.334(h) and 40 CFR 60.334(i).
Facility-wide	20. The Permittee shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
	21. If and when MassDEP requires it, the Permittee shall conduct emission testing in accordance with USEPA Reference Test Methods and Regulation 310 CMR 7.13.

Table 3 Key:
EU# = Emission Unit Number
EPA = United States Environmental Protection Agency
VOC = Volatile Organic Compounds
CO = Carbon Monoxide
NO_x = Nitrogen Oxides
lb/MMBtu = pounds per million British Thermal Units
CEMS = Continuous Emission Monitoring System

Table 4	
EU#	**Record Keeping Requirements**
1 & 2	1. The Permittee shall maintain the following records (electronic and/or hardcopy) for at least five years. All records shall be maintained up-to-date such that the previous two calendar years of data is readily available for MassDEP examination. Records shall include: A. Date and hours of operation of each combustion turbine. B. Date and time of start-up and shutdown of each combustion turbine. C. Date, time and specifications of all maintenance performed on each the combustion turbine, steam injection system and continuous monitoring devices and the type or a description of the maintenance performed and the date and time the work was completed. D. Calibration of all CEMS monitoring devices including the date, time and the name of contractor who performed the calibrations. E. Record of any upsets or failures associated with the CEMS. F. Combustion equipment, emission control or monitoring device malfunctions, time and date of malfunction, description of event, time and date of corrective action taken and description of said action. G. Total fuel consumption of natural gas in cubic feet per hour and total fuel consumption of fuel oil in gallons per hour. H. Total pounds steam flow per hour for each operating hour of the day. I. Total hours of operation on natural gas per day and fuel oil per day. J. Gross electrical output (MWh) produced for each hour of the day for each combustion turbine. K. Hourly heat input (MMBtu) to each combustion turbine. L. Hourly NO_x and CO emissions on a lb/MMBtu basis for each combustion turbine and lb/hr basis. M. Sulfur content records for fuel oil and natural gas.
	2. The Permittee shall maintain records required by the Federal New Source Performance Standards 40 CFR 60, Subparts A (General Provisions) and GG (Stationary Gas Turbines).
	3. The Permittee shall comply with all applicable record keeping requirements contained in 40 CFR Parts 72 and 75 and 310 CMR 7.32, 7.70 and 7.71.
	4. The Permittee shall maintain documentation of the fuel oil sulfur content as required by the methods specified in Table 3, #18; and shall maintain records of natural gas sulfur content annually in accordance with 40 CFR 75, Appendix D Section 2.3.1.4(e).

Table 4	
EU#	**Record Keeping Requirements**
	5. The Permittee shall maintain adequate records on-site to demonstrate compliance with all operational, production, and emission limits contained in Table 2, Table 2A and Table 2B above. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve-month period (current month plus prior eleven months). These records shall be compiled no later than the 15th day following each month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at http://www.mass.gov/dep/air/approvals/aqforms.htm#report .
	6. The Permittee shall maintain records of monitoring and testing as required by Table 3.
1 & 2	7. The Permittee shall maintain a copy of this Plan Approval, underlying Application and the most up-to-date SOMP for the EU(s) and PCD approved herein on-site.
	8. The Permittee shall maintain a record of routine maintenance activities performed on the approved EU(s), PCD and monitoring equipment. The records shall include, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed.
	9. The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved EU(s) and PCD and monitoring equipment. At a minimum, the records shall include: date and time the malfunction occurred; description of the malfunction; corrective actions taken; the date and time corrective actions were initiated and completed; and the date and time emission rates and monitoring equipment returned to compliant operation.
Facility-Wide	10. The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.
	11. The Permittee shall maintain records required by this Plan Approval on-site for a minimum of five (5) years.
	12. The Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.

Table 4 Key:
EU# = Emission Unit Number
PCD = Pollution Control Device
SOMP = Standard Operating and Maintenance Procedure
USEPA = United States Environmental Protection Agency
CEMS = Continuous Emission Monitoring System
MWh = Megawatt-hours
MMBtu = Million British Thermal Units

Table 5	
EU#	**Reporting Requirements**
Facility-wide	1. The Permittee shall submit quarterly CEMS reports in writing to the MassDEP, Central Regional Office, Bureau of Air and Waste, Permit Section, 8 New Bond Street, Worcester, Massachusetts 01606, and to EPA New England. The reports will be submitted by January 30th, April 30th, July 30th and October 30th of each year and will contain at least the following information(except that the Permittee does not have to report as a deviation the down time of the monitoring equipment during calibration procedures): A. The reports from the facility CEMS and COMS shall identify any periods of excess emissions; B. For each period of excess emissions or excursions from allowable operating conditions, the Permittee shall list the duration, cause, the response taken, and the amount of excess emissions. Periods of excess emissions shall include periods of start-up, shutdowns, malfunction, emergency, equipment cleaning, and upsets or failures associated with the emission control system or CEMS; C. The date and time of any NO_x, CO and opacity downtime periods, defined as periods when the data capture requirements of 40 CFR 75.10(d)(1) for NO_x, 40 CFR 60.13(h)(2) for CO, and 40 CFR 60.13(h)(1) for opacity are not met; D. A statement of whether or not the Table 3, Item 7 CEMS and/or COMS percent data recording requirements were achieved; and E. A tabulation of periods of common stack and per turbine operating hours per reporting period.
	2. The Permittee shall comply with all applicable reporting requirements contained in 40 CFR Parts 60, 72, 73, 75 and 77; and 310 CMR 7.32, 7.70 and 7.71.
	3. Any records or reports that are required to be submitted to MassDEP in digitized format shall be provided in a format usable to MassDEP.
	4. The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a "Responsible Official" as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c).
	5. The Permittee shall notify the Central Regional Office of MassDEP, BWP Permit Chief by telephone: 508-767-2845, email: Roseanna.Stanley@massmail.state.ma.us, or fax : 508-792-7621, as soon as possible, but no later than three (3) business days after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to Permit Chief at MassDEP within ten (10) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s).
	6. The Permittee shall report annually to MassDEP, in accordance with 310 CMR 7.12, all information as required by the Source Registration/Emission Statement Form. The Permittee shall note therein any minor changes (under 310 CMR 7.02(2)(e), 7.03, 7.26, etc.), which did not require Plan Approval.
	7. The Permittee shall provide a copy to MassDEP of any record required to be maintained by this Plan Approval within 30-days from MassDEP's request.

Table 5	
EU#	**Reporting Requirements**
	8. The Permittee shall submit to MassDEP for approval a stack emission pretest protocol, at least 30 days prior to emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements.
	9. The Permittee shall submit to MassDEP a final stack emission test results report, within 60 days after emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements.

Table 5 Key:
EU# = Emission Unit Number
CEMS = Continuous Emission Monitoring System

4. SPECIAL TERMS AND CONDITIONS

A. The Permittee is subject to, and shall comply with, the Special Terms and Conditions as contained in Table 6 below:

Table 6	
EU#	**Special Terms and Conditions**
Facility-wide	1. Operation of the Facility shall be in accordance with this MassDEP written Plan Approval letter and associated facility plans, specifications, Standard Operating Procedures and Standard Maintenance Procedures and protocols contained within previous 7.02 application package(s).
	2. During startup and shutdown of EU# 1, EU# 2 and/or the steam turbine, the Permittee shall take all necessary actions to minimize NO_x emissions. The control system to reduce the emissions of NO_x shall be 100% operational within 120 minutes of startup of the EU# 1 or EU# 2.
	3. The Permittee shall properly train all personnel to operate the facility and control equipment in accordance with vendor specifications. All persons responsible for the operation of the steam injection control system shall sign a statement affirming that they have read and understand the approved standard operating and standard maintenance procedures.
	4. Diesel powered train engines transporting rail cars shall be moved prior to the evening hours to an isolated area away from residential houses to minimize the impact of noise that may be caused by these sources.
	5. The Permittee shall take all necessary precautions to ensure that the Facility complies with MassDEP noise guidelines and that the Facility does not cause a violation of 310 CMR 7.10 of the Air Quality Control Regulations.

Table 6 Key:
EU# = Emission Unit Number
NO_x = Nitrogen Oxides
SO_2 = Sulfur Dioxide

B. The Permittee shall install and use an exhaust stack, as required in Table 7, on each of the Emission Units that is consistent with good air pollution control engineering practice and that discharges so as to not cause or contribute to a condition of air pollution. Each exhaust stack shall be configured to discharge the gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted gases, including but not limited to rain protection devices known as "shanty caps" and "egg beaters."

C. The Permittee shall install and utilize exhaust stacks with the following parameters, as contained in Table 7, for the Emission Units that are regulated by this Plan Approval:

Table 7

EU#	Stack Height Above Ground (feet)	Stack Inside Exit Dimensions	Stack Gas Exit Velocity Range (feet per second)	Stack Gas Exit Temperature Range (°F)
1 & 2 (Combined Stack)	190	25 feet	Variable up to 85 feet per second	Variable up to 294 °F

Table 7 Key:
EU# = Emission Unit Number
°F = Degree Fahrenheit

5. GENERAL CONDITIONS

The Permittee is subject to, and shall comply with, the following general conditions:

A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).

B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all

removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.

C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.

D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and / or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.

E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.

F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.

G. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.

H. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.

I. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

6. MASSACHUSETTS ENVIRONMENTAL POLICY ACT

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and 301 CMR 11.00, Section 11.04, provide certain "Fail-Safe Provisions," which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

7. APPEAL PROCESS

This Plan Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars ($100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Enclosed is a stamped approved copy of the application submittal.

Should you have any questions concerning this Plan Approval, please contact Paul Dwiggins by telephone at (508)767-2760, or in writing at the letterhead address.

Roseanna E. Stanley
Permit Chief
Bureau of Air and Waste

Enclosure
ecc: Bellingham Board of Health

Bellingham Fire Department
MassDEP/Boston - Yi Tian
Sean Gregory, DSG Solutions

Appendix A

CEMS readings will be attributed to each turbine by using approved methods from EPA's Acid Rain Program for combined stack emissions. 40 CFR Part 75 Appendix F, Section 5.6.1 calculates heat input for each turbine based on electric generation. The following equation shall be used to determine the heat input for each turbine when the turbines are burning the same fuel.

Eq.1 $$HI_1 = HI_{CS}(T_{CS}/T_1)(MW_1*T_1/(MW_1*T_1+MW_2*T_2))$$

Where:

HI_1 = Heat input rate for unit 1, MMBtu/hr.
HI_{CS} = Heat input rate at the common pipe, MMBtu/hr.
MW_1 = Gross electrical output for unit 1, MWe.
MW_2 = Gross electrical output for unit 2, MWe.
T_1 = Unit operating time for unit 1, in equal increments of 1/60 of an hour.
T_2 = Unit operating time for unit 2, in equal increments of 1/60 of an hour.
T_{CS}= Common stack or common pipe operating time, in equal increments of 1/60 of an hour.

The combined emissions determined in the common stack will also be allocated according to the electricity each turbine produces.

Eq. 2 $$EU_1 = EU_{CS}(T_{CS}/T_1)(MW_1*PL_1*T_1/(MW_1*PL_1*T_1+MW_2*PL_2*T_2))$$

Where:

EU_1 = Emission rate for unit 1, lbs/hr.
EU_{CS} = Emission rate at the common stack, lbs/hr.
MW_1 = Gross electrical output for unit 1, MWe.
MW_2 = Gross electrical output for unit 2, MWe.
PL_1 = Depending on firing oil or natural gas, the appropriate lb/MMBtu emission limit for unit 1 from Table 2 above
PL_2 = Depending on firing oil or natural gas, the appropriate lb/MMBtu emission limit for unit 2 from Table 2 above
T_1 = Unit operating time for unit 1, in equal increments of 1/60 of an hour.
T_2 = Unit operating time for unit 2, in equal increments of 1/60 of an hour.
Tcs= Common stack or common pipe operating time, in equal increments of 1/60 of an hour.